Bridge C-07-001 Bridge Street over Mitchell River, Chatham

75% Design Public Hearing – July 18, 2013

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Overview

- Introduction
- Project design
- Permitting update
- Construction highlights
- Next steps

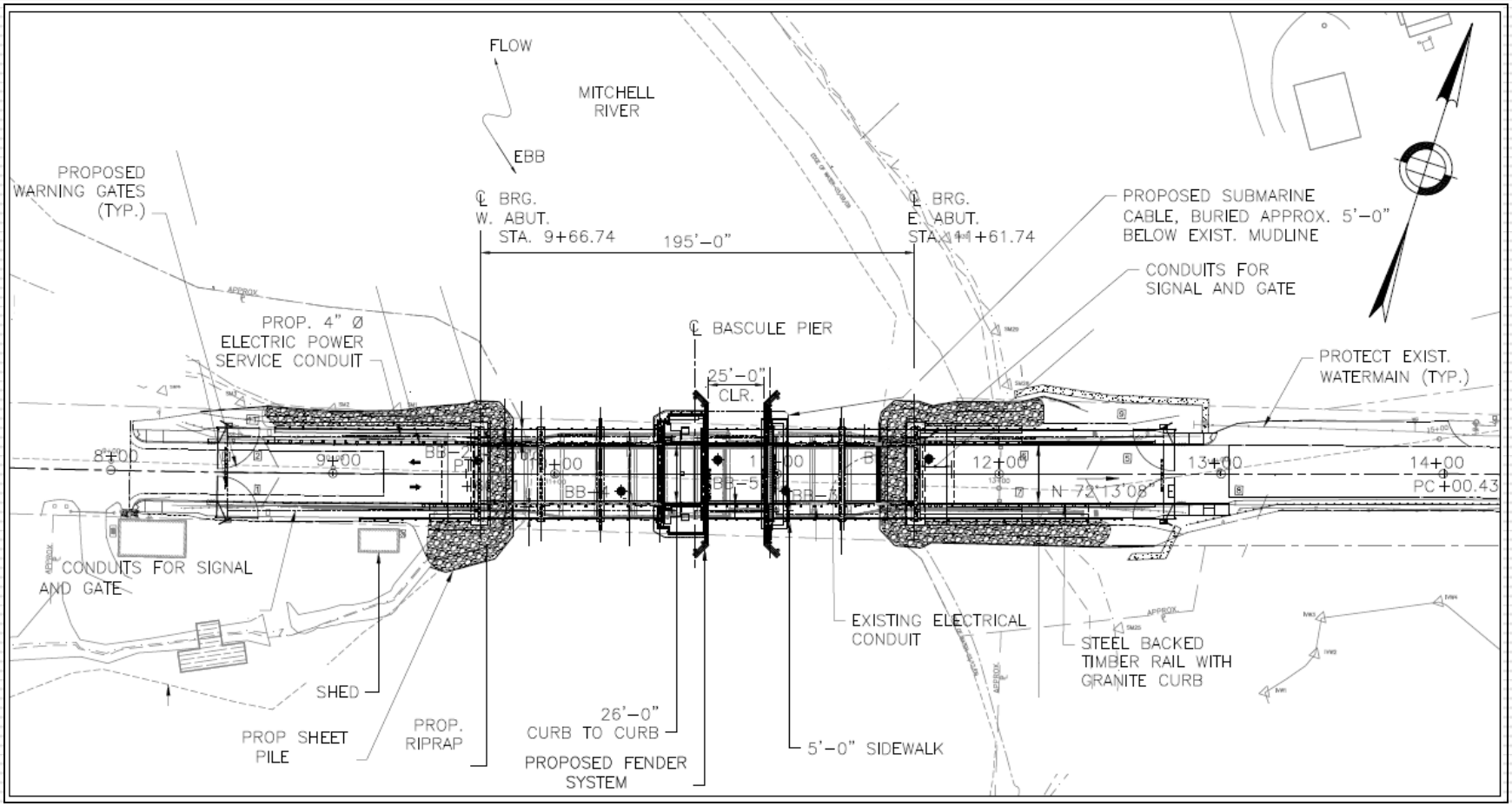
Project Purpose

- To eliminate structural deficiencies and overcome functional obsolescence, while considering the context of the surrounding area and accommodating existing and future uses of the bridge

Project Summary

- Mitchell River crossing
- Complete bridge replacement
  - Wood superstructure
  - Concrete/Steel substructure
  - Aesthetic treatments

Bridge Plan



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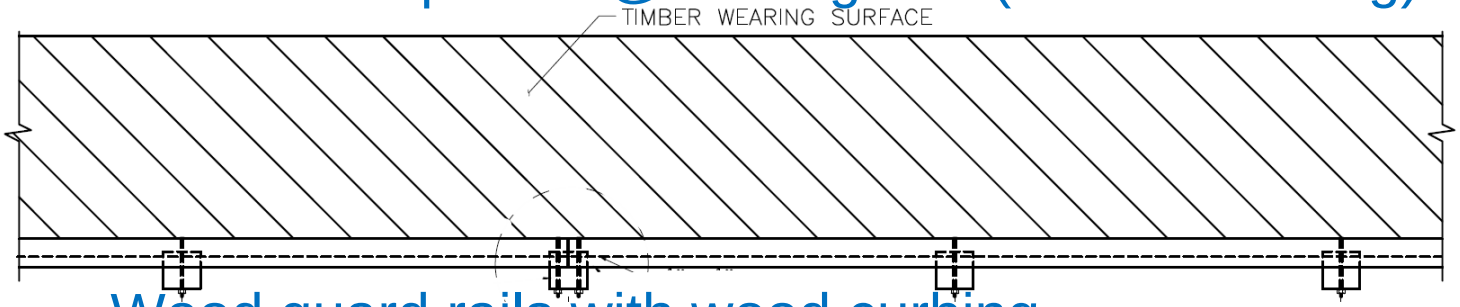
Bridge Features

- All wood superstructure
  - Prefabricated deck units on wood frame
    - QC and assembly speed
  - Wood deck planks @ 60 degrees (sim. to existing)

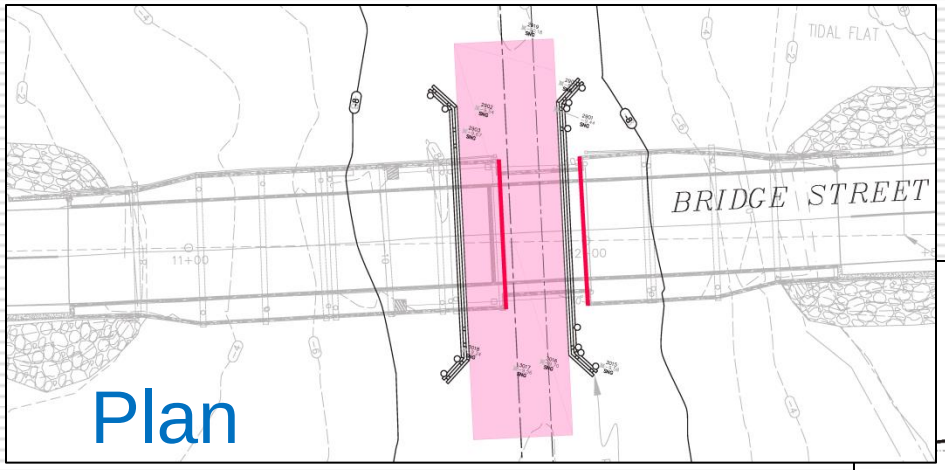


  - Wood guard rails with wood curbing
  - Wood pedestrian railing outside of bridge
    - Reuse sections of the existing rail, if possible
  - ADA accessible sidewalks

Bascule Span

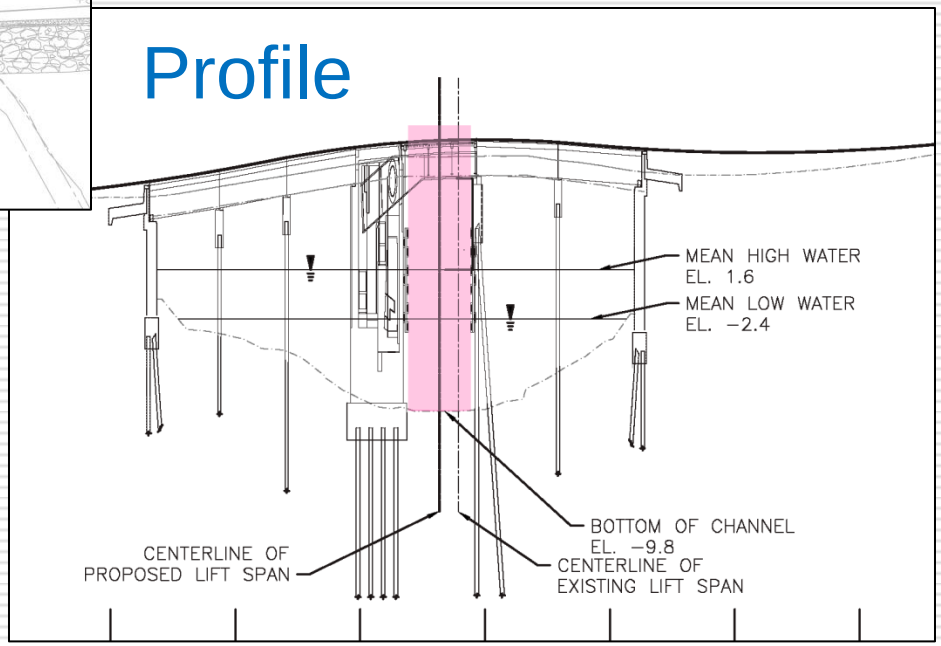
- Steel superstructure with wood deck
- Span opening shifted 5ft west
- Span opening widened to 25ft (from 19’4”)
- Freeboard clearance maintained
- Nav channel improved by better fendering & lights to meet USCG regulations
- Bridge cycle time 3-4 minutes plus boat passage

Draw Span Shift



Plan

Profile



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Bascule Pier/Channel

Open Bridge Span

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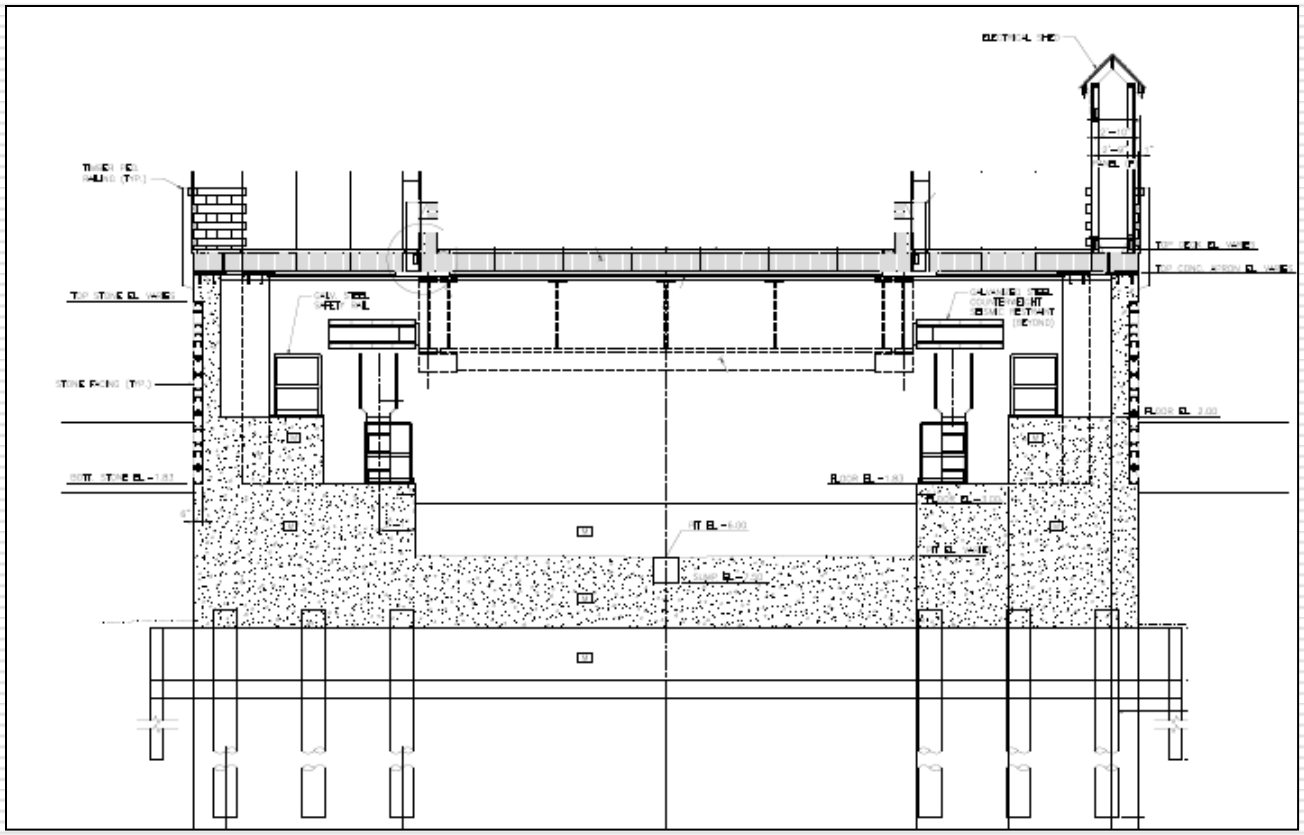
Bascule Pier Section



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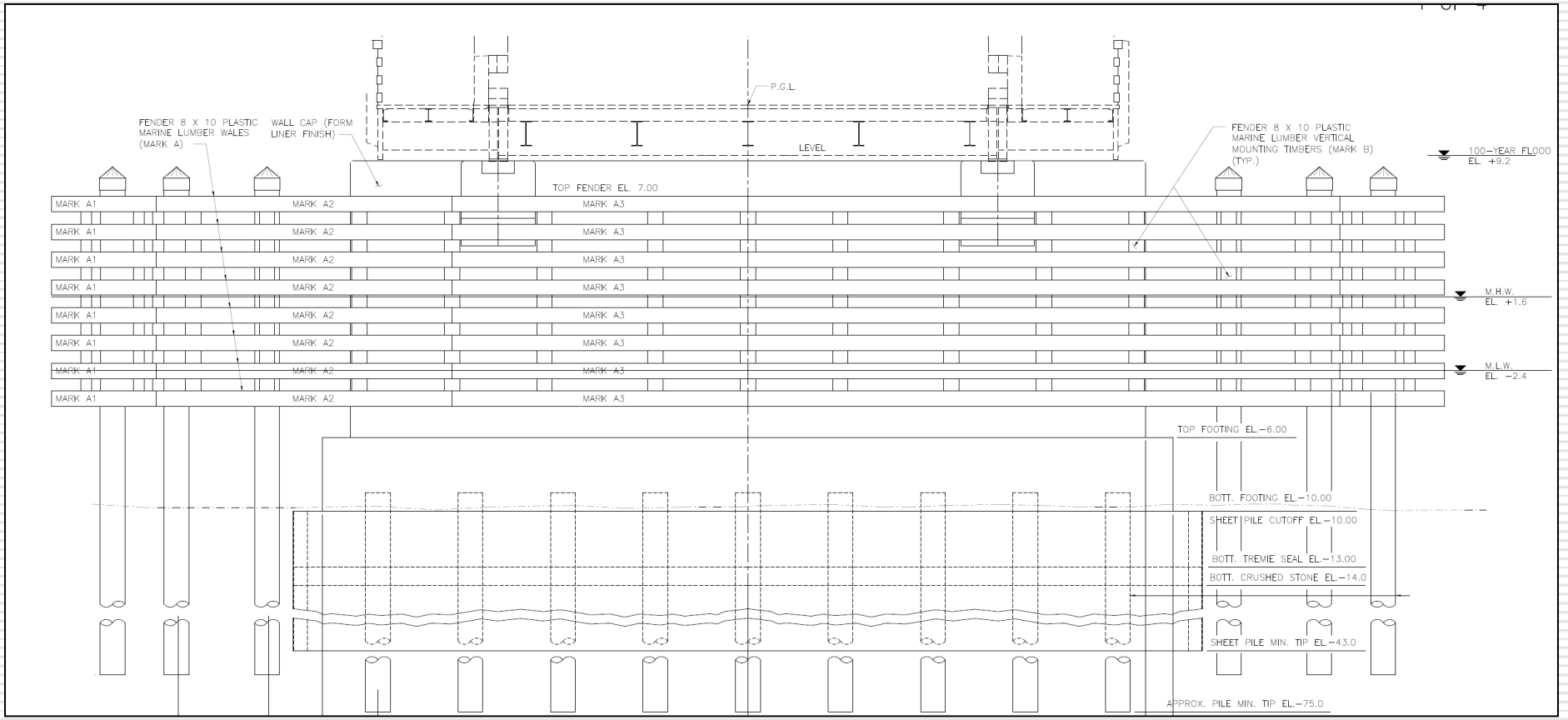
Rest Pier Elevation -Channel



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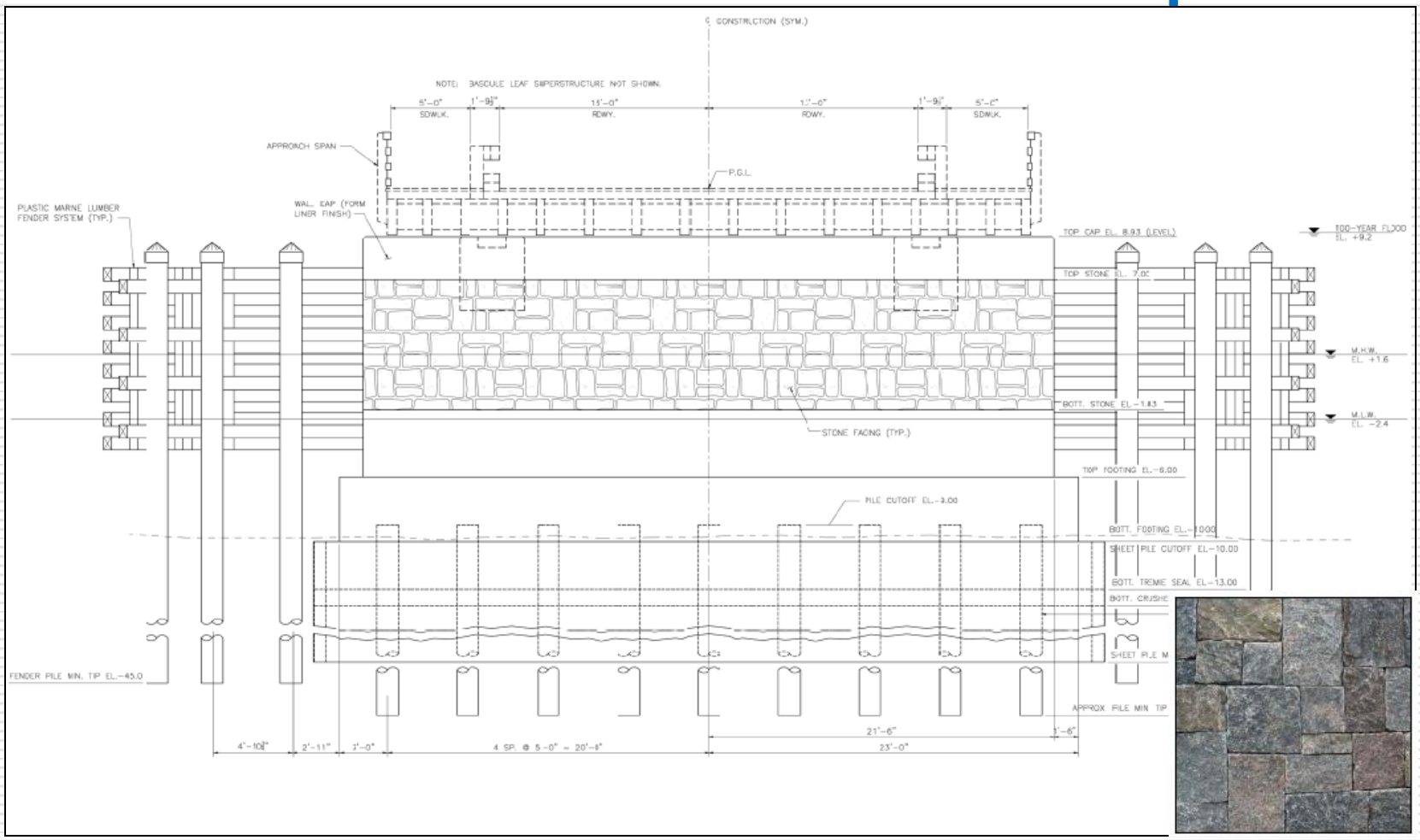
Rest Pier Elevation – Span 4



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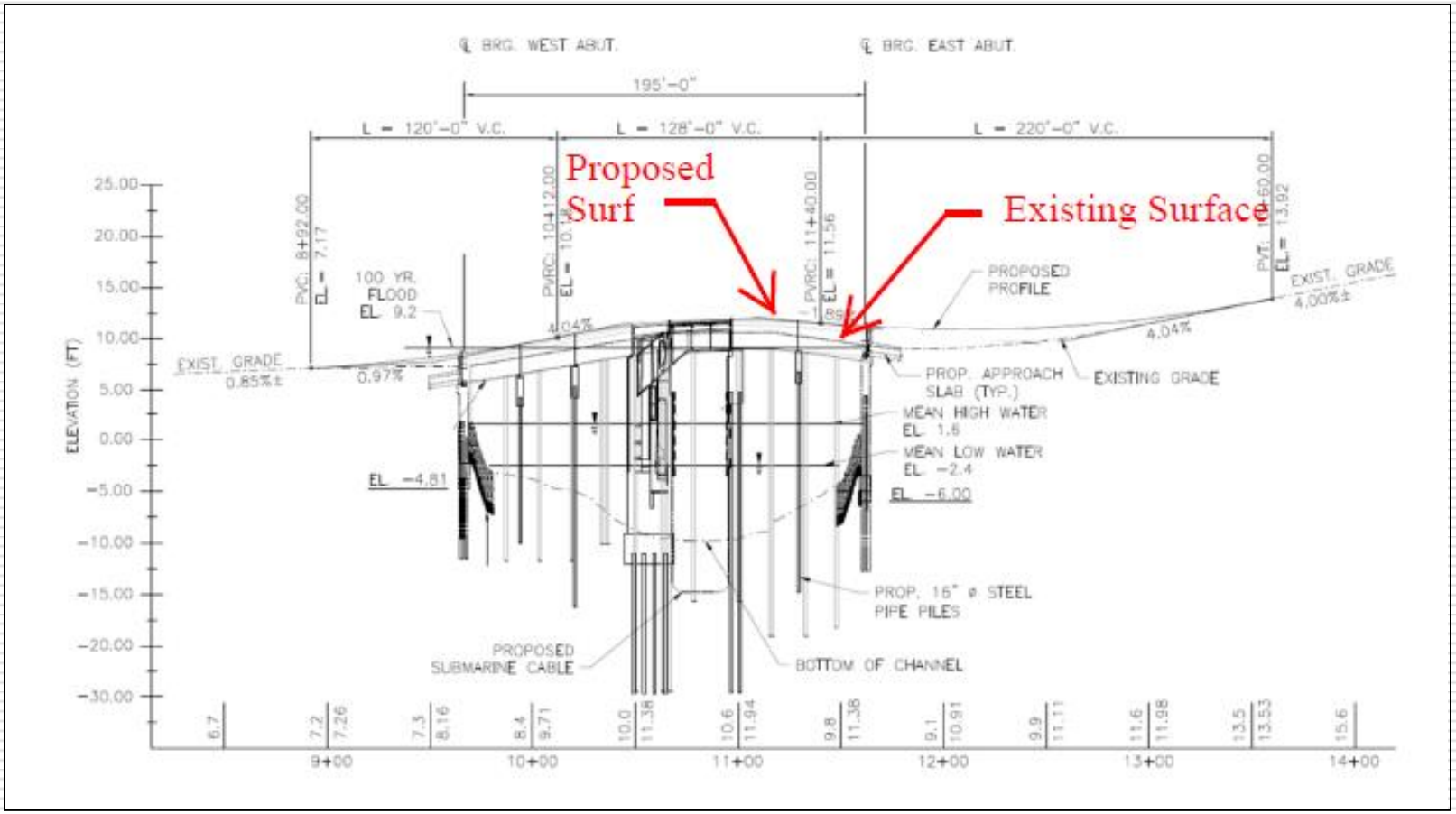
Roadway

- 26ft curb to curb width, 5ft sidewalks
- Design speed of 30mph; Existing Speed Limit Signs R&R
- Maintained a highpoint over the center of the channel
  - East approach dip is smoother than existing
  - West approach is steeper

Roadway Profile



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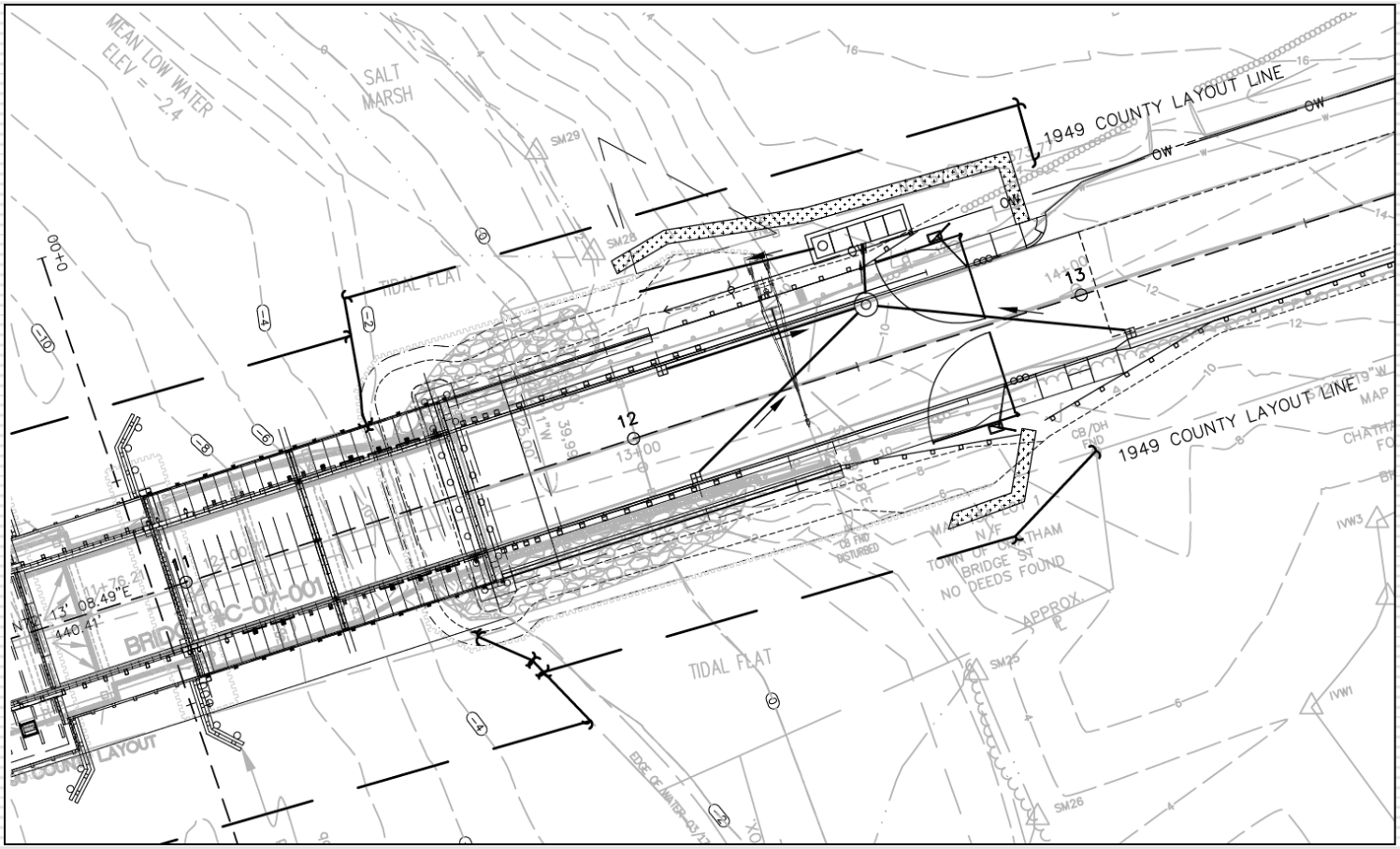
East Approach Summary

- Several key features
  - Resistance barrier
  - Traffic gates/signal
  - Utility Pole relocation with new LED lamp
  - New DSCB's & leaching pit/outlet
  - Water line
  - Path on Town-owned land in SE quadrant
  - Path on new easement in NE quadrant

East Approach Plan



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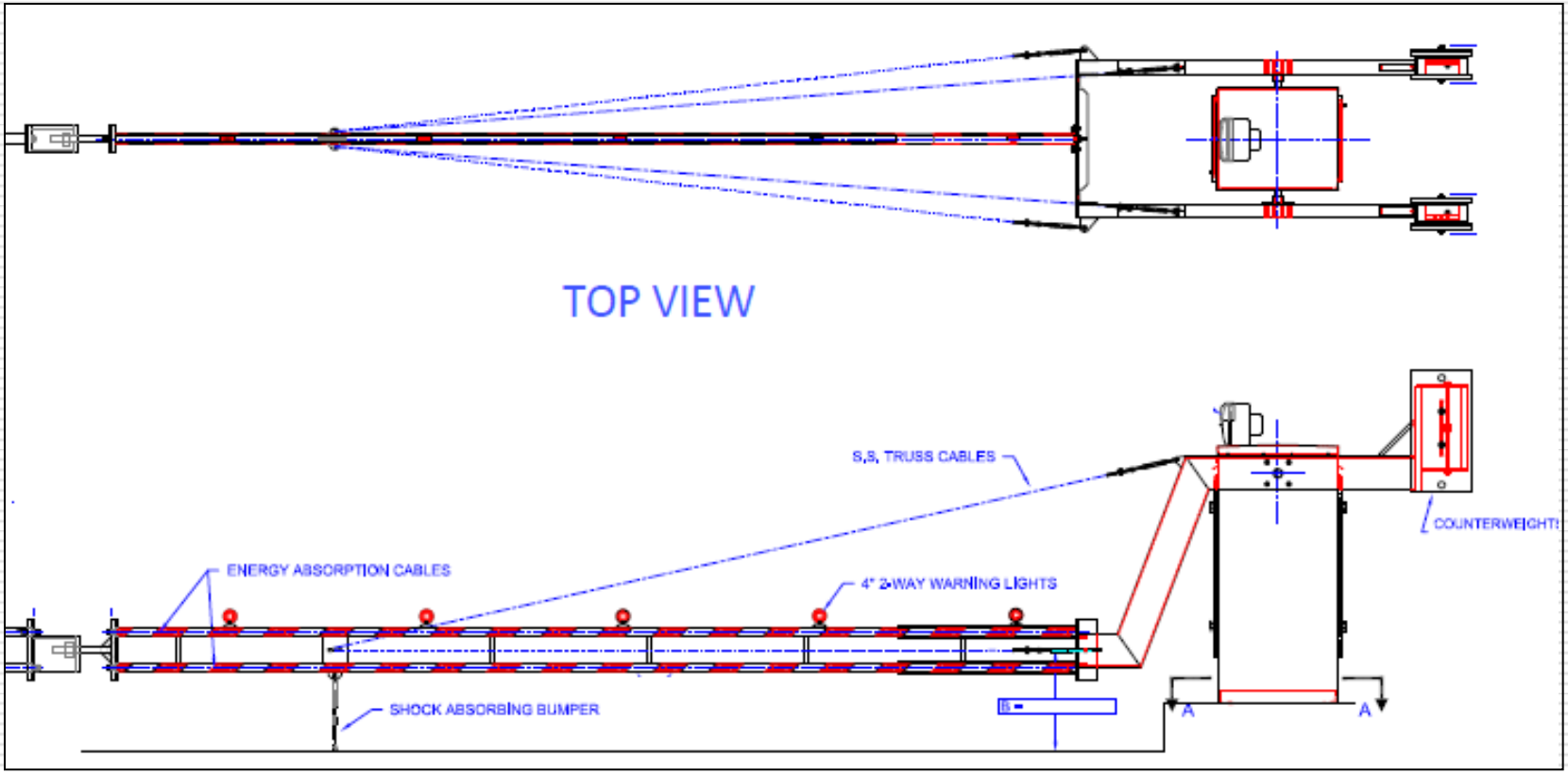
Resistance Gate



View from East Approach

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Bridge Up East View

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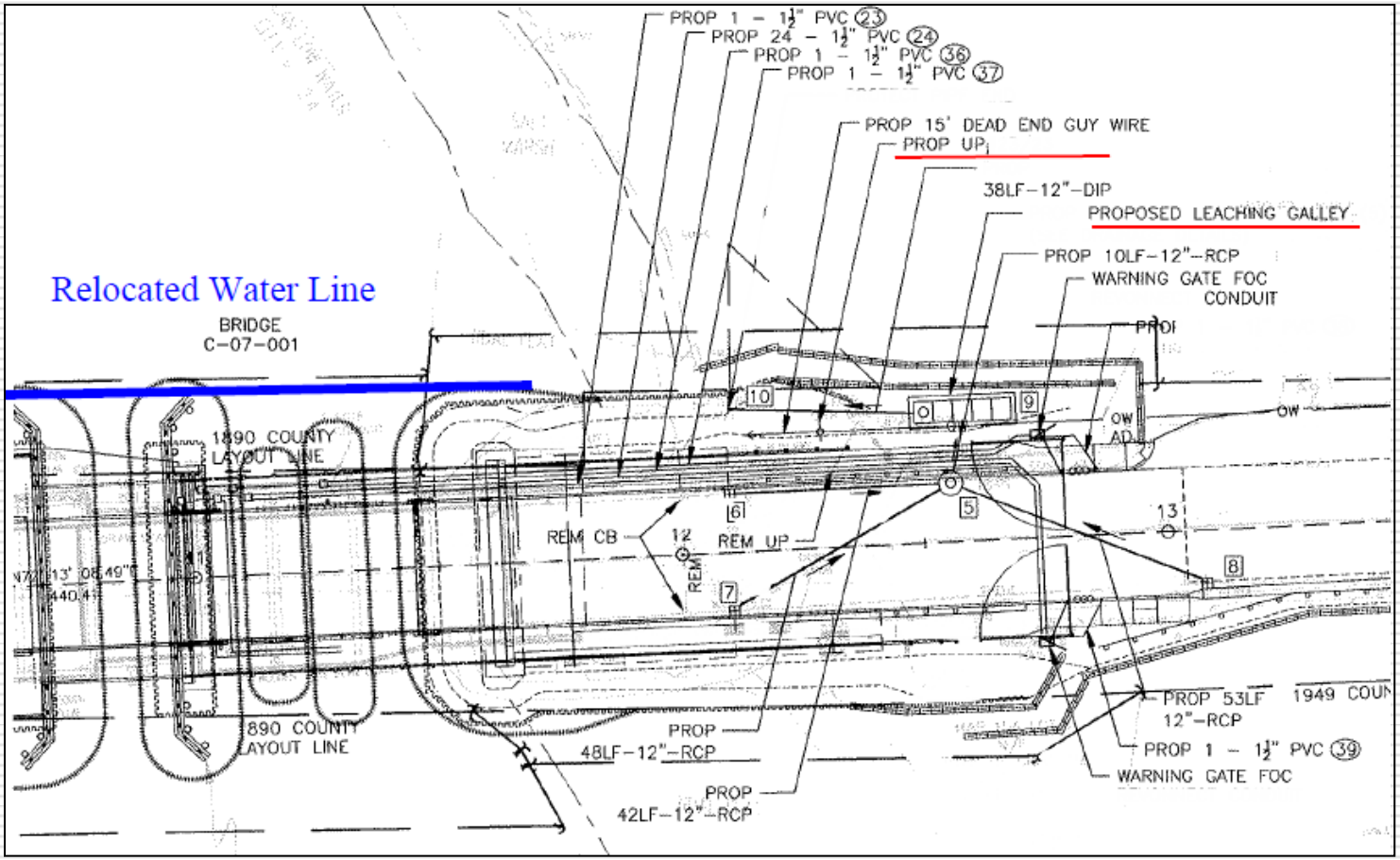
Maintenance Path

Drainage and Utilities

- Adding DSCB's and leaching pits on east and west approaches
- Relocating utility pole
  - Replacing street lamp with LED
  - (similar on west side)
- Modify water line on shore
- Replacing submarine power cable to bascule

Utility Plan East Side



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View from West Approach

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Pedestrian View

Mitchell River Bridge
Proposed Elevation

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Pier Perspective

Permitting Status

- Informal ESA Section 7 consultation complete (1/17/13)
- ACOE Massachusetts General Permit, Category 2 (4/11/13)
- 401 Water Quality Certification (5/2/13)
- CZM Federal Consistency Review (6/3/13)
- USCG Bridge Permit (Pending)

Work Restrictions

- No silt-producing discharges shall occur January 15 to May 31 to minimize adverse impacts to winter flounder migration, spawning habitat, and juvenile development
  - This may be waived if bottom-weighted silt curtains are deployed around silt producing activities
  - Silt curtains may be removed if the work within the silt curtain is complete and all silt has settled out prior to; removal shall be conducted during the ebb tide

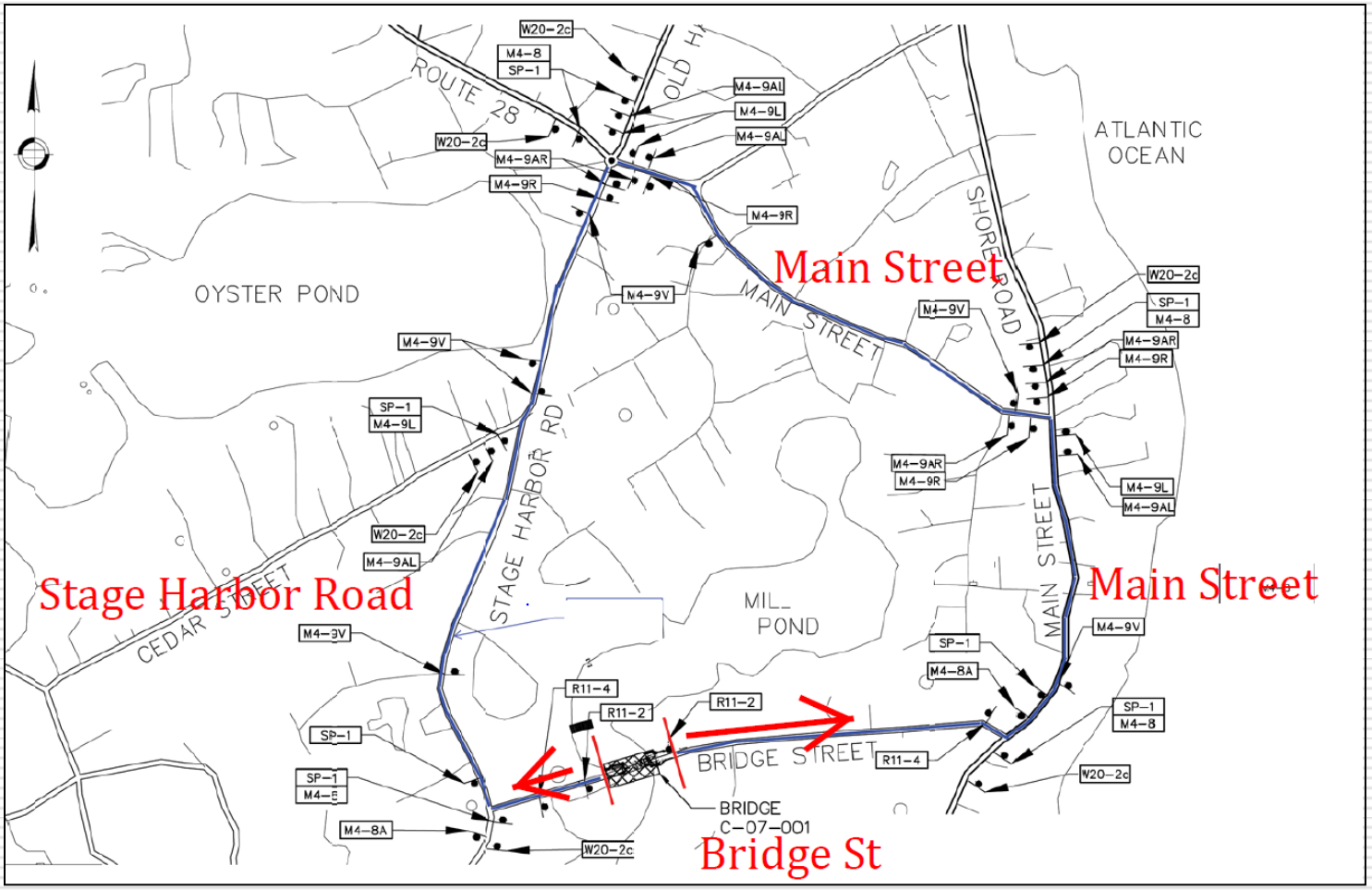
Other Conditions

- Restriction of the channel shall be minimized to allow passage of winter flounder into the upper reaches of the embayment to spawn
- Temporary wetland impacts that may result from construction, including potential salt marsh impacts shall be restored to their original condition and elevation

Construction Highlights

- Construction will commence spring 2014
- Bridge will be closed. Traffic will be directed towards Main Street
- First demo action will be the removal of the draw span
  - This Contractor will not be permitted to leave the span in the open position

Traffic Plan



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Construction Highlights

- Contractor required to
  - Establish fencing at the NE & SE quadrants
  - Prepare a maintenance access path on the NE quadrant
  - Prepare a public access path on the SE quadrant
- Bridge will be open to traffic on or before September 2016

Pile Construction

- All wood piles will be pulled from the navigation channel as required by USCG
- All other wood piles to be cut 2 ft below mud line
- Summer 2014 will also see construction of sheet pile cofferdams at abutments & bascule pier
- Pile driving will occur mid-late summer and last about 2 - 3 months
- Piles will be shop coated with zinc primer and 2-coat coal tar epoxy w/field touch-up

Pier Cap and Superstructure

- **Contractor required to:**
  - **Mock-up the pier cap for MassDOT approval prior to production**
  - **Provide 2 sample mock-ups of the pier cap form liner and stain application for approval**
- **Timber deck units will be produced off site and assembled in place**
- **Bridge surface will have wood planks with similar orientation as the existing bridge**

NEPA

- **Environmental Assessment/Section 4(f)**
  - FHWA Approved Document October 25, 2012
    - Issued for Public Review November 7, 2012
  - Public Hearing held November 27, 2012
  - Comment Letters received and reviewed
  - Response Matrix developed/transmitted
  - FONSI signed by FHWA May 30, 2013

Section 106 Process

- October 2010 Keeper finds MRB Eligible
- MassDOT Evaluates Repair/Rehab Options
  - Would not satisfy project need
- Produced LCCR
  - MassDOT Adopted Alternative 3: Wood Super/Conc & Steel Sub
- Consulting Party meetings
- MOA May 2012
  - Conditions as stated on the MOA have been met

Section 106 Related Changes

- Entire superstructure of the approach spans has been changed from steel girders to wood/glulam girders
- Wearing surface has been changed from concrete to timber decking.
- Timber decking orientation will be similar to the existing pattern.
- All sidewalks and railings have been changed to timber.
- Bascule span has been changed from steel and concrete to a steel frame with a timber deck and timber sidewalks.
- Bridge cross section (excluding sidewalks) has been narrowed from 30' down to 26'. Sidewalk width will be 5' on each side of the road.
- The proposed pipe piles will be painted to resemble the existing creosote wood piles.
- Stone cladding will be incorporated on the bascule piers and abutment elevations.

Next Steps

- Final plans, specs, plans & est. - August 2013
- Receive USCG Permit
- Complete ROW (Town responsibility)
- Construction advertisement - October 2013
- Anticipate notice to proceed - January 2014
- Bridge closure - May 2014
- Bridge re-opens – Sept 2016 or sooner